

WHAT IS CLAIMED IS:

1. A camera on which a lens apparatus is mountable, the lens apparatus comprising an image-taking optical system which includes a focus lens and a stop, the camera comprising:

a communication unit which communicates with the lens apparatus;

a focus detection unit which detects a focusing state of the image-taking optical system; and

a controller which sends data and a signal to the lens apparatus through the communication unit,

wherein the controller sends data for driving the focus lens to the lens apparatus based on the detection result from the focus detection unit when the stop is in a first state, then sends a signal for setting the stop in a second state in which the stop is stopped down more than in the first state to the lens apparatus and sends data for driving the focus lens based on the detection result from the focus detection unit in the second state to the lens apparatus.

2. The camera according to claim 1, wherein the first state is a full aperture state and the second state is a state in which the stop is stopped down for image taking.

3. The camera according to claim 1, further comprising an image pickup element which photoelectrically converts an

object image formed by the image-taking optical system,

wherein the focus detection unit comprises the image pickup element as a sensor which detects the focusing state.

4. A camera on which a lens apparatus is mountable, the lens apparatus comprising an image-taking optical system which includes a focus lens and a stop, the camera comprising:

a communication unit which communicates with the lens apparatus;

first and second focus detection units which detect a focusing state of the image-taking optical system based on different detection systems; and

a controller which sends data and a signal to the lens apparatus through the communication unit,

wherein the controller sends data for driving the focus lens to the lens apparatus based on the detection result from the first focus detection unit when the stop is in a first state, then sends a signal for setting the stop in a second state in which the stop is stopped down more than in the first state to the lens apparatus and sends data for driving the focus lens based on the detection result from the second focus detection unit in the second state to the lens apparatus.

5. The camera according to claim 4, wherein the first state is a full aperture state and the second state is a

state in which the stop is stopped down for image taking.

6. The camera according to claim 4, wherein the first focus detection unit detects the focusing state according to a phase difference detection system and the second focus detection unit detects the focusing state according to a contrast detection system.

7. The camera according to claim 4, further comprising an image pickup element which photoelectrically converts an object image formed by the image-taking optical system,

wherein the second focus detection unit comprises the image pickup element as a sensor which detects the focusing state.

8. A camera system comprising:

the camera according to claim 1; and

a lens apparatus mounted on the camera, the lens apparatus comprising an image-taking optical system including a focus lens and a stop.

9. A camera system comprising:

the camera according to claim 4; and

a lens apparatus mounted on the camera, the lens apparatus comprising an image-taking optical system including a focus lens and a stop.

10. A camera comprising:

an image-taking optical system which includes a focus lens and a stop;

a focus detection unit which detects a focusing state of the image-taking optical system; and

a controller which controls the driving of the focus lens,

wherein the controller drives the focus lens based on the detection result from the focus detection unit when the stop is in a first state and then sets the stop in a second state in which the stop is stopped down more than in the first state and drives the focus lens based on the detection result from the focus detection unit in the second state.

11. The camera according to claim 10, wherein the first state is a full aperture state and the second state is a state in which the stop is stopped down for image taking.

12. The camera according to claim 10, further comprising an image pickup element which photoelectrically converts an object image formed by the image-taking optical system,

wherein the focus detection unit comprises the image pickup element as a sensor which detects the focusing state.

13. A camera comprising:

an image-taking optical system which includes a focus lens and a stop;

first and second focus detection units which detect a focusing state of the image-taking optical system based on different detection systems; and

a controller which controls the driving of the focus lens,

wherein the controller drives the focus lens based on the detection result from the first focus detection unit when the stop is in a first state, then sets the stop in a second state in which the stop is stopped down more than in the first state and drives the focus lens based on the detection result from the second focus detection unit in the second state.

14. The camera according to claim 13, wherein the first state is a full aperture state and the second state is a state in which the stop is stopped down for image taking.

15. The camera according to claim 13, wherein the first focus detection unit detects the focusing state according to a phase difference detection system and the second focus detection unit detects the focusing state according to a contrast detection system.

16. The camera according to claim 13, further comprising an image pickup element which photoelectrically converts an object image formed by the image-taking optical system,

wherein the second focus detection unit comprises the

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image pickup element as a sensor which detects the focusing state.